

Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

1. (Original) A method in a computer system for identifying a principal associated with a first object comprising:
 - maintaining in the first object identity information identifying the principal;
 - invoking a method in an API with the identity information as an argument, under control of the method,
 - searching a principal data store for principal data identified by the identity information;
 - instantiating a principal object having principal data identified by the identifying information; and
 - returning a pointer to the principal object or,
 - if more than one principal is found in the data store having the principal data, returning an error.
2. (Original) The method of claim 1 wherein the identity information is an identity reference identifying an identity claim of the principal and invoking comprises:
 - invoking the findbyidentity method in a principal API exposed by the principal data store with the identity reference as an argument.
3. (Original) The method of claim 1 wherein the identity information is an identity reference identifying an identity claim of the principal and invoking comprises:
 - invoking a findbyidentity method in a principal API exposed by the principal data store with the ItemContext as a first argument, and identity reference as a second argument; and
 - under control of the findbyidentity method,
 - searching a principal data store identified by the ItemContext argument for a principal having the identity claim;

instantiating a principal object for the principal having the identity claim;
returning a pointer to the principal object; or,
if more than one principal is found in the data store, returning an error.

4. (Original) The method of claim 1 wherein the identity information is an identity reference identifying an identity claim of the principal, the identity reference having an identity claim value and scheme, and invoking comprises:

invoking a findbyidentity method with the identity claim value and scheme as arguments; and
under control of the findbyidentity method,
searching a principal data store for a principal having the identity claim value and scheme;
instantiating a principal object for the principal having the identity claim value and scheme;
returning a pointer to the principal object; or,
if more than one principal is found in the data store having the identity claim value and scheme, returning an error.

5. (Original) The method of claim 1 wherein the identity information is an identity reference identifying an identity claim of the principal, the identity reference having an identity claim value and scheme, and invoking comprises:

invoking a findbyidentity method with the identity claim value as an argument;
and
under control of the findbyidentity method,
searching a principal data store for a principal having the identity claim value with any scheme;
instantiating a principal object for the principal having the identity claim value and scheme;
returning a pointer to the principal object; or,
if more than one principal is found in the data store having the identity claim value and scheme, returning an error.

6. (Original) The method of claim 1 wherein the identity information is an identity reference identifying an identity claim of the principal, the identity reference having an identity claim value and scheme, and invoking comprises:

- invoking a findbyidentity method with the identity claim value and scheme and a principal type as arguments, the findbyidentity method in an application programming interface of the first object; and

- under control of the findbyidentity method,

- searching a principal data store for a principal of the principal type that also has the identity claim value and scheme;

- instantiating a principal object of the principal type, the principal object having the identity claim value and scheme; and

- returning a pointer to the principal object; or,

- if more than one principal is found in the data store having the identity claim value and scheme, returning an error.

7. (Original) The method of claim 1 wherein the first object is an identity reference object having an identity reference and invoking comprises:

- invoking a findbyidentity method with the identity reference, the findbyidentity method in an application programming interface of the first object; and

- under control of the findbyidentity method,

- searching a principal data store for a principal identified by the identity reference;

- instantiating a principal object for the principal identified by the identity reference; and

- returning a pointer to the principal object; or,

- if more than one principal is found in the data store having the identity claim value and scheme, returning an error.

8. (Original) The method of claim 1 further comprising:

storing in the principal data store, principal data including at least one identity claim for every principal known to the computer system.

9. (Original) The method of claim 1, wherein the principal object includes at least one identity claim object, and the principal object and identity claim object expose application programming interfaces that have the findbyidentity method.

10 – 13. Cancelled

14. (Original) A computer program product readable by a computing system and encoding a computer program of instructions for executing a computer process for identifying a principal, said computer process comprising:

- maintaining in the first object identity information identifying the principal;
- invoking a method in an API with the identity information as an argument, under control of the method,
- searching a principal data store for principal data identified by the identity information;
- instantiating a principal object having principal data identified by the identifying information; and
- returning a pointer to the principal object or,
- if more than one principal is found in the data store having the principal data, returning an error.

15. (Original) The computer program product of claim 14 wherein the identity information is an identity reference identifying an identity claim of the principal and invoking comprises:

- invoking the findbyidentity method in a principal API exposed by the principal data store with the identity reference as an argument.

16. (Original) The computer program product of claim 14 wherein the identity information is an identity reference identifying an identity claim of the principal and invoking comprises:

- invoking a findbyidentity method in a principal API exposed by the principal data store with the identity reference as a first argument, and an ItemContext as a second argument; and

- under control of the findbyidentity method,

- searching a principal data store identified by the ItemContext argument for a principal having the identity claim;

- instantiating a principal object for the principal having the identity claim;

- returning a pointer to the principal object; or,

- if more than one principal is found in the data store, returning an error.

17. (Original) The computer program product of claim 14 wherein the identity information is an identity reference identifying an identity claim of the principal, the identity reference having an identity claim value and scheme, and invoking comprises:

- invoking a findbyidentity method with the identity claim value and scheme as arguments; and

- under control of the findbyidentity method,

- searching a principal data store for a principal having the identity claim value and scheme;

- instantiating a principal object for the principal having the identity claim value and scheme;

- returning a pointer to the principal object; or,

- if more than one principal is found in the data store having the identity claim value and scheme, returning an error.

18. (Original) The computer program product of claim 14 further comprising:

- storing in the principal data store, principal data including at least one identity claim for every principal known to the computer system.

19. (Original) The computer program product of claim 17, further comprising:
independently selecting a property from the principal data to be an identity claim, the
property uniquely identifying the principal and distinguishing it from all other principals known
to the computer system.

20 – 35. Cancelled